

CLAIMS

What is claimed is:

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1. A miter saw comprising:  
a base assembly;  
a rotatable table rotatably connected to the base assembly, the table  
having a plane;  
a saw assembly including a motor and a blade driven by the motor; and  
10 a pivot arm pivotally attached to the table and supporting the saw  
assembly, allowing a user to plunge the blade below the table plane;  
wherein area of the blade below the table plane when plunged is between  
about 14.4% and 50% of total blade area.
  2. The miter saw of Claim 1, wherein the blade area below the table  
15 plane is about 15.75% of the total blade area.
  3. The miter saw of Claim 1, further comprising a sliding fence  
connected to the base assembly.
  4. A miter saw comprising:  
a base assembly;  
20 a rotatable table rotatably connected to the base assembly, the table  
having a table plane;  
a fence connected to the base assembly and having a fence plane;  
a saw assembly including a motor and a blade driven by the motor, the  
blade having a radius and a blade center; and

a pivot arm pivotally attached to the table and pivotally supporting the saw assembly about a first axis substantially parallel to the table plane, allowing a user to plunge the blade below the table plane;

wherein distance between the first axis and the table plane is about 0.472  
5 times the radius, distance between the first axis and the fence plane is about 1.45 times the radius, and distance between the first axis and the blade center is about 1.882 times the radius.

5. The saw of Claim 4, wherein distance between the blade center and the table plane is about 0.57 times the radius when the blade is plunged below  
10 the table plane.

6. The saw of Claim 4, wherein chord length of blade periphery plunged below the table plane is at least 1.6 times the radius.

7. The saw of Claim 4, wherein chord of blade periphery plunged below the table plane has a first endpoint behind the fence and a second endpoint in front of the fence, and distance between the fence and the second endpoint is at  
15 least 1.1 times the radius.

8. The saw of Claim 7, wherein the distance between the fence and the second endpoint is at least about 1.236 to about 1.252 times the radius.

9. The saw of Claim 7, wherein the distance between the fence and the  
20 second endpoint is at least 1.244 times the radius.

10. The saw of Claim 7, wherein the distance between the fence and the second endpoint is between about 0.60 and 0.775 times the chord length.

DRAWING REFERENCE

11. The saw of Claim 7, wherein the distance between the fence and the second endpoint is about 0.757 times the chord length.

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